

Stiffening the

IAN KUAH
takes a look
at a hot S4
from the USA

AT first it was 3,500. Then, after much coaxing and cajoling, it grew to 5,000. That is the final production number put on the RS4 and, if anyone else wanted one, tough. On the other hand, you may not have wanted an estate car in the first place and the S4 saloon may be more to your liking. Audi's answer to the BMW M3 and Mercedes-Benz C43 AMG is arguably the least involving of the three to drive, but on the other hand, it is the quickest from point-to-point when the road surface is slippery.

Part of the S4's problem is handling, set up to keep the average driver out of trouble. That means significant understeer in slow corners and a general feeling of inertia. Couple this to a twin-turbo V6 engine in a comparatively mild state of tune in a car that is quite heavy for its size, and you have a report card that says: 'Lots of potential, but must try harder'.

So, we were interested when Los Angeles-based suspension specialist Intrax, invited us to try its uprated S4. As an after-market suspension tuning company which campaigns an Audi A4 in motorsport, Intrax was keen to market a road-going version of its race suspension technology.

"Our aim was to reduce understeer drastically to even out the handling, especially in the final third of a corner when you are trying to put the power down," Intrax founder Scott

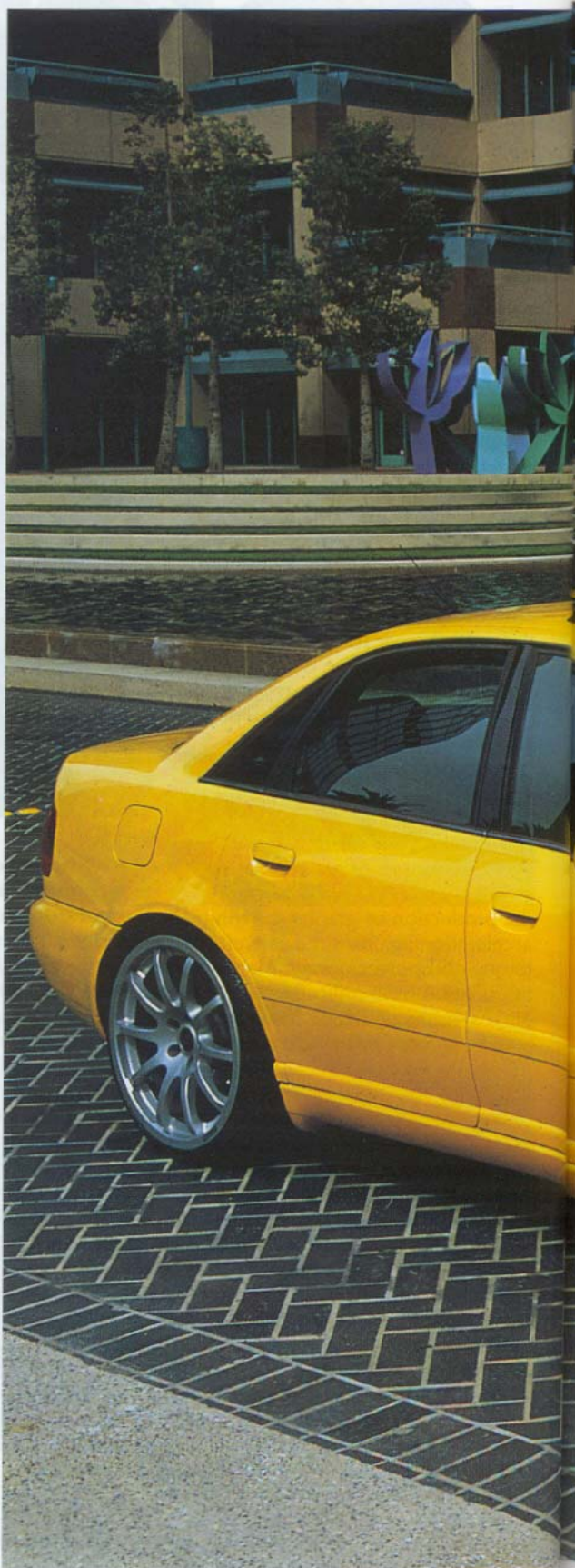
Hartmann explained. "A lot of the problems we encountered with the standard car's handling are down to the factory springs. It is a heavy, understeering car which is also under-tyred. Our goal was to test and establish what was wrong and then methodically take care of everything the factory didn't nail down."

At the time of our visit, the yellow S4 was fitted with a prototype coil-over set-up. Scott explained that the production units might well be totally different. As it stands, the anti-roll bars, dampers and ride height are adjustable, the latter on the spring pans like a race set-up.

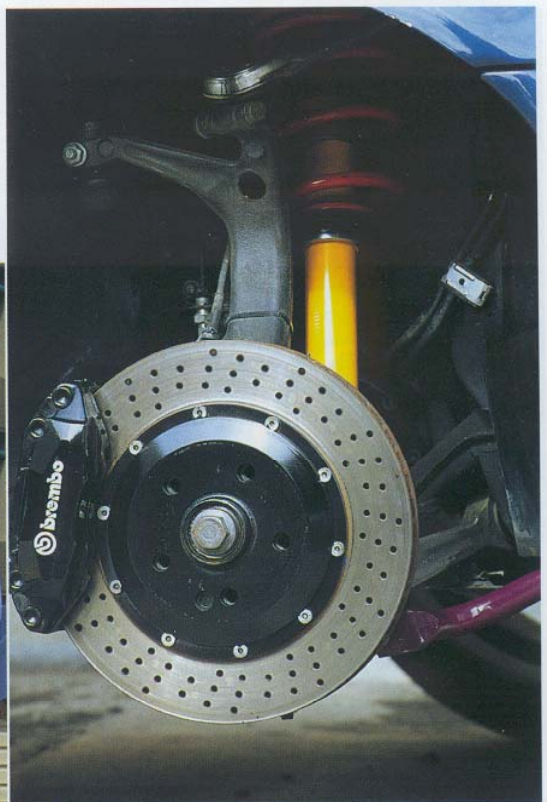
The suspension had been uprated considerably over standard with 400lb front springs, up from 280lb. At the rear, 280lb springs take over from the 175lb stock set-up. While this may sound pretty extreme, especially the rear settings, testing had quickly established that the factory S4's handling is heavily biased towards understeer. Stiffening the back more than the front reduces the understeer.

"We chose to decrease the roll rate with bigger anti-roll bars rather than stiffer springs so as not to kill the ride," Scott explained. "Race cars, are set up differently, with little roll bar and very high spring rates. Our A4 race car runs 1,400lb front and 1,600lb rear springs!"

The lovely Italian-made 8.25x19in. Technomagnesia wheels were a one-off set made for Frank Biela. These are genuine touring car wheels with



sinews



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**INTRAX
AUDI
S4**

bolt holes drilled for a street car, rather than the competition centre-lock arrangement. The aggressive 30mm offset brings the 215/30ZR19 tyres right to the edges of the wheel-arches.

The ECU modifications have also transformed the car. The standard S4 is quick but not as willing as we would like. Part of this is down to the strangling exhaust system. Intrax uses 2.5in. dual pipes from the manifolds back. These come closer together in the middle of the car, where they enter a large silencer box before splitting again en-route to the tail. The car sounds like a jet taking off when you accelerate!

While the European S4 has 265bhp, the US version has 250bhp. With the standard turbos, between 300 and 315bhp is possible at 14lb (0.97 bar) boost; 17lb (1.2 bar) gives you between 320 and 340bhp, but this takes them right to the limit. Using Garrett T04 turbos specially built for the engine, Intrax experts have seen 365bhp and believe they can get up to 380bhp.


The estimated 315bhp on tap when I drove it was a worthwhile improvement. More than just a power boost, the modifications change the way the car responds. From a brisk but rather flat performer, the car is now eager, responsive and raring to go. Even if it were no more powerful than standard, that would be an improvement in itself.

Bearing in mind that the uprated chassis consisted of prototype parts with settings that may bear no resemblance to production items, I was impressed. Turn-in was far more eager, and the car felt better balanced with less roll and a more neutral cornering attitude. On the downside, the ride, not a good point of the standard



19in. wheels are by Technomagnesia

car, had not been totally resolved. The gorgeous 19in. wheels and rubber-band tyres are partly to blame for this. Los Angeles has some of the worst roads in the US, and all the tuners agree that 18in. is a sensible limit.

The modifications show just what can be done to improve the competent but rather anodyne S4. It is a car which appeals on paper but falls short of perfection on the road. In appealing to a broader audience, Audi stopped short of focusing the S4 as tightly as it could have. We can thank companies like Intrax for going the extra mile. 



THE INTRAX STORY

INTRAX was founded in 1993 by Scott Hartmann to develop and sell after-market suspension parts for Japanese cars like Honda and Toyota, which are popular with young American car enthusiasts.

Initially, distribution was limited to the greater Los Angeles area, but two years down the line, a rapidly growing Intrax had gone national. By the late 1990s, the decision was taken to tap into the market for modified European cars, with BMW as the first marque. This tied in nicely with the ultimate aim of moving upmarket to challenge respected German brands like Eibach and H&R. The financial muscle to do this comes from the Intrax parent company, Merwede, a Dutch-based firm which makes components for other suspension manufacturers.

Creating a good image is part of that plan, leading to show cars like the Audi S4 and a BMW M Coupé. Motorsport is the other sales promotion tool which Intrax is exploiting. When touring cars were launched into the US racing scene in the mid-90s, Intrax supplied the suspension components for Darren Law's privateer E36. When touring cars began to wane in popularity, Intrax switched to a showroom stock championship Audi A4 and has a modified Audi S4 road car.

The original premises were a few blocks away on the other side of the John Wayne Airport in Newport Beach, California, but the fast-growing company soon outgrew the site. The present building also became too small, but fortunately there is room on the site to expand, and construction of a larger warehouse was under way during our visit. The extended facility now covers 12,900 square feet.

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